



METHODS FOR DISPLAYING DIFFERENT TYPES OF IMAGES

Dr.R.Reka¹, K.Saraswathi², Dr.V.Ganesh Babu³

¹Professor, Department of Information Technology, Panimalar Institute of Technology, Chennai, Tamilnadu, India.

²Research Scholar, Bharathiar University, Assistant Professor, Nehru Memorial College, Puthanampatti, Trichy, Tamilnadu, India.

³Assistant Professor and Head of the Department, Government College for Women, Maddur, Mandya (DT), Karnataka, India.

Abstract

In this paper, the overview of the Methods for displaying different types of images are surveyed. The images are displayed in a matlab figure window. The Indexed, Gray Scale and Binary Images are displayed using different image displaying methods. The images are displayed differently using different features. Experimental results show that the features here used are sufficient to identify the patterns from the Images. The extracted features are evaluated for goodness and are tested on the images. This paper presents about various image displaying methods that were proposed earlier in literature.

Index Terms: Image Processing, Image Displaying Methods, Image Features1.

INTRODUCTION

The different types of images are displayed using different image displaying methods. An extremely large number of image data such as satellite images, medical images, and digital photographs are generated every day. These images, if analyzed, can reveal useful information to the human users. Unfortunately, there is a lack of effective tools for searching and finding useful patterns from these images. Image mining systems that can automatically extract semantically meaningful information from image data are

increasingly in demand. The fundamental challenge in image mining is to determine how low-level, pixel representation contained in a raw image or image sequence can be efficiently and effectively processed to identify high level spatial objects and relationships. The popular amongst them are Features based on color, Features based on texture and Features based on shape.

2. IMAGE DISPLAYING METHODS

The Indexed, Gray Scale, Truecolor and Binary Images are displayed using imshow function with different features of images.

2.1 Indexed Images

The indexed images are displayed using imshow or imtool function. If the colormap contains a greater number of colors than the image, the functions ignore the extra colors in the colormap. If the colormap contains fewer colors than the image requires, the functions set all image pixels over the limits of the colormap's capacity to the last color in the colormap. For example, if an image of class uint8 contains 256 colors, and you display it with a colormap that contains only 16 colors, all pixels with a value of 15 or higher are displayed with the last color in the colormap. The indexed images are also known as pseudocolor images.



Fig. 1 Change the image color using Color map

1.1 Gray Scale Images

Grayscale images are similar to indexed images in that each uses an m -by- n -by-3 RGB colormap. MATLAB displays grayscale images by using a grayscale

system colormap (where $R=G=B$). By default, the number of levels of gray in the colormap is 256 on systems with 24-bit color, and 64 or 32 on other systems.



Fig. 2 RGB and GrayScale Images

1.2 Binary Images

Binary images contain only 0's and 1's. Pixels with the value 0 are displayed as black; pixels with the value 1 are displayed as White. To display a bi-

nary image, using either `imshow` or `imtool`, specify the image matrix as an argument. For example, this code reads a binary image into the MATLAB workspace and then displays the image.

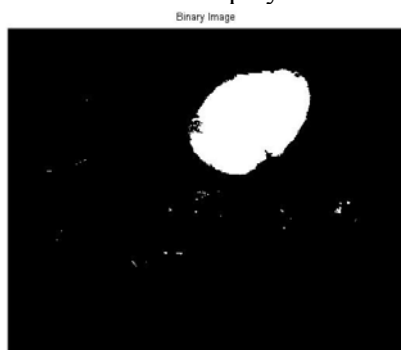


Fig. 3 Binary Image

2.4 TrueColor Image

Truecolor images, also called RGB images, represent color values directly, rather than through a colormap. A truecolor image is an m -by- n -by-3 array. For each pixel (r,c) in the image, the

color is represented by the triplet $(r,c,1:3)$. The truecolor image is displayed using either `imshow` or `imtool`, specify the image matrix as an argument.

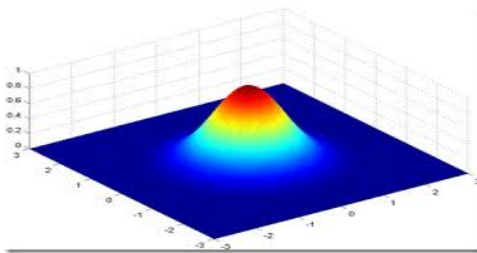


Fig. 4 True Color Image

2.5 Image with Colobar

The imshow function used to display the image in a MATLAB figure window and then call the

colorbar function to add the colorbar to the image.

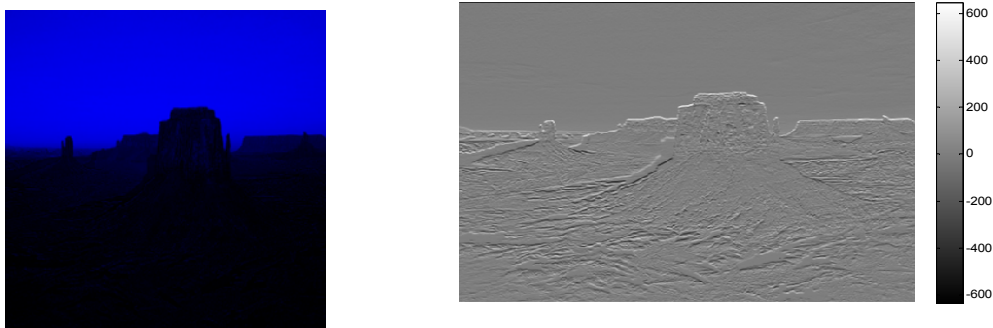


Fig.5 Adding Colorbar to the Image

Conclusion

This paper presents a survey on various image displaying methods that was proposed earlier by researcher. This overview of image display focuses on image display implementations. It also delivers conceptual overview of methodology. Image display is an expansion of Image mining in the field of image processing. Future investigations that are discussed may be implemented in the area of image mining.

REFERENCES

- [1] O. Zaiane and J. Han (1998), "Mining Multimedia Data," CASCON'98: Meeting of Minds, Toronto, Canada, pp 83-96, November.
- [2] R. Missaoui and R. M. Palenichka (2005), "Effective image and video mining: an overview of model based approaches," In MDM '05: Proceedings of the 6th international workshop on Multimedia data mining, pp. 43-52.
- [3] Sanjay T. Gandhe, K. T. Talele and Avinash G. Keskar (2007), "Image Mining Using Wave-

let Transform", Knowledge-Based

Intelligent Information and Engineering Systems, Springer link book chapter, pp. 797-803.

- [4] Sabyasachi Pattnaik, Pranab Kumar Das Gupta and Manojranjan Nayak (2008), "Mining images using clustering and data compressing techniques", International Journal of Information and Communication Technology, vol. 1, no. 2,

- [5] Petra Perner (2002), "Image mining: issues, framework, a generic tool and its application to medical image diagnosis",

Engineering Applications of Artificial Intelligence, vol. 15, no. 2, pp. 205-216.

- [6] Lu Kun-Che and Yang Don-Lin (2009), "Image Processing and Image Mining using Decision Trees", Journal of information science and engineering, vol. 25, no. 4, pp. 989-1003.

- [7] L. Jaba Sheela and V. Shanthi (2007), "Image Mining Techniques for Classification and Segmentation of Brain MRI Data,"

Journal of Theoretical and Applied Infor-

mation Technology,” vol. 3, no. 4,pp. 115-121.

[8] Dr.V.P.Eswaramurthy, M.Arthi, “A Survey on Image Mining Techniques”, International Journal of Computer & Organization

Trends Volume 12 Number 1 – Sep 2014.

[9] Ramadass Sudhir,”A Survey on Image Mining Techniques: Theory and Applications” Computer Engineering and Intelligent

Systems www.iiste.org, ISSN 2222-1719 (Paper) ISSN 2222-2863 (Online), Vol 2, No.6, 2011.

[10] Ji Zhang, Wynne Hsu, Mong Li Lee, “Image Mining: Issues, Frame Works and Techniques”.

[11] Patricia, G. Foschi, “Feature Extraction for Image Mining”.